

**NEBRASKA ALIGNMENT FOR NIH SUPPLEMENT HOW YOUR BRAIN UNDERSTANDS WHAT YOUR EAR HEARS**

<b>HOW YOUR BRAIN UNDERSTANDS WHAT YOUR EAR HEARS</b>		
<b>Nebraska Science Standards– Grade 8</b>		
<b>Lesson</b>	<b>Standard</b>	<b>Example Indicator</b>
<b>4</b>	<b>8.1.1.a</b>	Recognize and describe key parts and functions of any system.
<b>4</b>	<b>8.1.1.b</b>	Analyze and predict the interactions within a system and between systems.
<b>3, 4</b>	<b>8.1.2.a</b>	Collect, manipulate, and analyze data from an experiment.
<b>1, 3, 4</b>	<b>8.1.2.b</b>	Observe and develop models (e.g., physical, mathematical, mental, and computer simulations).
<b>3, 4</b>	<b>8.1.2.c</b>	Interpret and explain results of experimentation.
<b>3, 4</b>	<b>8.1.2.d</b>	Analyze whether or not investigative procedures and conclusions are reasonable.
<b>3</b>	<b>8.1.3.a</b>	Select and use appropriate measurement units.
<b>3</b>	<b>8.1.3.c</b>	Apply English and metric systems of measurement.
<b>3, 4, 5</b>	<b>8.2.1.a</b>	Identify questions and identify concepts that guide scientific investigations.
<b>3, 4</b>	<b>8.2.1.b</b>	Design and conduct a scientific investigation.
<b>All lessons</b>	<b>8.2.1.c</b>	Use appropriate tools and techniques to gather, analyze, and interpret data.
<b>1, 3, 4, 5</b>	<b>8.2.1.d</b>	Given evidence, develop descriptions, explanations, predictions, and models.
<b>1, 3, 4, 5</b>	<b>8.2.1.e</b>	Show the relationship between evidence and explanations.
<b>1, 3, 4, 5</b>	<b>8.2.1.f</b>	Recognize and analyze alternative explanations and predictions.
<b>1, 3, 4, 5</b>	<b>8.2.1.g</b>	Communicate scientific procedures and explanations.
<b>3, 5</b>	<b>8.2.1.h</b>	Use mathematics in scientific inquiry.
<b>1, 3, 4</b>	<b>8.3.3.d</b>	Investigate and describe the properties and transfer of sound energy.
<b>4</b>	<b>8.4.1.a</b>	Investigate and describe the levels of organizations: cells, tissues, organs, organ systems, whole organisms, and ecosystems.
<b>4</b>	<b>8.4.1.c</b>	Investigate and explain how cells sustain life through functions (e.g., growth and nutrition).
<b>4</b>	<b>8.4.1.d</b>	Investigate and describe the specialized function performed by specialized cells (e.g., muscular and skeletal) in multicellular organisms.
<b>4</b>	<b>8.4.1.e</b>	Investigate and describe the human body systems and how they interact.
<b>3, 4, 5</b>	<b>8.4.1.f</b>	Investigate and explain how disease affects the structure and/or function of an organism.

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<b>1</b>	<b>8.4.2.d</b>	Investigate and describe the effects of inherited traits and environmental influences on an organism's characteristics.
<b>1, 3, 4, 5</b>	<b>8.4.3.b</b>	Investigate and explain how behavior is a response to internal and external stimuli determined by heredity and experience.
<b>3, 4</b>	<b>8.2.a</b>	Distinguish between scientific inquiry (asking questions about the natural world) and technological design (using science to solve practical problems).
<b>4</b>	<b>8.6.2.b</b>	Describe how science and technology are reciprocal.
<b>4</b>	<b>8.6.2.d</b>	Recognize that solutions have intended and unintended consequences.
<b>4, 5</b>	<b>8.7.1.b</b>	Investigate and explain how personal choices can directly affect a person's health (e.g., exercise, nutrition, and use of drugs).
<b>5</b>	<b>8.7.4.a</b>	Analyze a type of hazard (e.g., natural, chemical, or biological) to evaluate the options for reducing or eliminating human risk.
<b>4, 5</b>	<b>8.7.4.b</b>	Describe how perceptions of risks and benefits influence personal and social decisions (e.g., seat belt usage and waste disposal procedures).
<b>4</b>	<b>8.7.5.a</b>	Explain that the effect of science on society is neither entirely beneficial nor entirely detrimental.
<b>3, 4</b>	<b>8.8.1.b</b>	Investigate and understand that science requires different abilities based on the type of inquiry and relies upon basic human qualities and scientific habits of mind.
<b>3, 4</b>	<b>8.8.2.a</b>	Formulate and test a hypothesis using observations, experiments, and models.
<b>3, 4, 5</b>	<b>8.8.2.b</b>	Use questioning, response to criticism, and open communication when defending a conclusion.
<b>1, 3, 4, 5</b>	<b>8.8.2.c</b>	Evaluate the results of scientific investigations, experiments, observations, theoretical models, and the explanations proposed by other scientists.
<b>1, 3, 4, 5</b>	<b>8.8.2.d</b>	Understand that scientific theories are based on observations, governed by rules of reasoning, and used to predict events.
<b>Nebraska Mathematics Standards – Grades 5 – 8</b>		
<b>Lesson</b>	<b>Standard</b>	<b>Description</b>
<b>3</b>	<b>8.2.1</b>	Add, subtract, multiply, and divide decimals and proper, improper, and mixed fractions with common and uncommon denominators with and without the use of technology.
<b>3, 5</b>	<b>8.2.2</b>	Identify the appropriate operation and do the correct calculations when solving word problems.

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<b>3, 5</b>	<b>8.2.3</b>	Solve problems involving whole numbers, integers, and rational numbers (fractions, decimals, ratios, proportions, and percents) with and without the use of technology.
<b>3</b>	<b>8.3.1</b>	Select measurement tools and measure quantities for temperature, time, money, distance, angles, area, perimeter, volume, capacity, and weight/mass in standard and metric units at the designated level of precision.
<b>3, 5</b>	<b>8.5.1.a</b>	Select appropriate representations of data when construction data displays (graphs, tables, or charts).
<b>2, 3, 5</b>	<b>8.5.2</b>	Read and interpret tables, charts, and graphs to make comparisons and predictions.
<b>Nebraska Reading / Writing Standards – Grade 8</b>		
<b>Lesson</b>	<b>Standard</b>	<b>Example Indicator</b>
<b>1, 3, 4, 5</b>	<b>8.1.1.a</b>	Monitor understanding during reading.
<b>1, 2, 3, 4, 5</b>	<b>8.1.1.b</b>	Interpret information from diagrams, charts, and graphs.
<b>1, 2, 3, 4, 5</b>	<b>8.1.1.c</b>	Answer literal, inferential/interpretive, and critical questions.
<b>1, 3, 4</b>	<b>8.1.2.b</b>	Use electronic resources (CD-ROM, software, online resources).
<b>1, 3, 4, 5</b>	<b>8.1.5.c</b>	Generate how, why, and what-if questions in interpreting nonfiction text.
<b>1, 3, 4, 5</b>	<b>8.1.5.d</b>	Follow written directions in technical reading.
<b>2, 3, 4, 5</b>	<b>8.2.1</b>	Write using standard English (conventions) for sentence structure, usage, punctuation, capitalization, and spelling.
<b>2, 3, 4, 5</b>	<b>8.2.4.a</b>	Develop narrative, persuasive, descriptive, technical, and/or expository writing for a designated audience and purpose.
<b>2, 3, 4, 5</b>	<b>8.2.4.b</b>	Write to describe, explain, and inform.
<b>All lessons</b>	<b>8.3.1.a</b>	Contribute knowledge and ask questions relevant to the topic discussed.
<b>All lessons</b>	<b>8.3.1.b</b>	Use subject-related vocabulary in discussions.
<b>All lessons</b>	<b>8.3.1.d</b>	Use discussion skills to assume leadership and participant roles.
<b>All lessons</b>	<b>8.4.1.a</b>	Listen to take notes and process information.
<b>2, 3, 4, 5</b>	<b>8.4.1.b</b>	Follow multi-step oral directions.
<b>All lessons</b>	<b>8.4.1.c</b>	Use listening skills in practical settings.

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**National Health Education Standards – Grades 6 – 8: cited from pre-publication document of National Health Education Standards, Pre K-12, American Cancer Society, December 21005 – August 2006**

<b>Lesson</b>	<b>Standard</b>	<b>Description</b>
<b>4, 5</b>	<b>1.8.1</b>	Analyze the relationship between healthy behaviors and personal health.
<b>3, 4, 5</b>	<b>1.8.3</b>	Analyze how the environment impacts personal health.
<b>3, 4, 5</b>	<b>1.8.5</b>	Describe ways to reduce or prevent injuries and other adolescent health problems.
<b>4, 5</b>	<b>1.8.7</b>	Describe the benefits and barriers to practicing healthy behaviors.
<b>4, 5</b>	<b>1.8.8</b>	Examine the likelihood of injury or illness if engaging in unhealthy behaviors.
<b>4, 5</b>	<b>1.8.9</b>	Examine the potential seriousness of injury or illness if engaging in unhealthy behaviors.
<b>4</b>	<b>2.8.3</b>	Describe how peers influence healthy and unhealthy behaviors.
<b>4</b>	<b>2.8.5</b>	Analyze how messages from the media influence personal and family health.
<b>4, 5</b>	<b>2.8.8</b>	Explain the influence of personal values and beliefs on individual health practices and behaviors.
<b>4, 5</b>	<b>2.8.9</b>	Describe how some health risk behaviors can influence the likelihood of engaging in unhealthy behaviors.
<b>5</b>	<b>2.8.10</b>	Explain how school and public health policies can influence health promotion and disease prevention.
<b>3</b>	<b>3.8.1</b>	Analyze the validity of health information, products, and services.
<b>4</b>	<b>3.8.4</b>	Describe situations that may require professional health services.
<b>4, 5</b>	<b>4.8.1</b>	Apply effective verbal and nonverbal communication skills to enhance health.
<b>4, 5</b>	<b>5.8.1</b>	Identify circumstances that can help or hinder healthy decision-making.
<b>4, 5</b>	<b>5.8.2</b>	Determine when health-related situations require the application of a thoughtful decision-making process.
<b>4, 5</b>	<b>5.8.3</b>	Distinguish when individual or collaborative decision-making is appropriate.
<b>4, 5</b>	<b>5.8.5</b>	Predict the potential short and long-term impact of each alternative on self and others.
<b>4, 5</b>	<b>5.8.6</b>	Choose healthy alternatives over unhealthy alternatives when making a decision.
<b>4, 5</b>	<b>5.8.7</b>	Analyze the outcomes of a health-related decision.
<b>4</b>	<b>6.8.1</b>	Assess personal health practices.
<b>4</b>	<b>6.8.2</b>	Develop a goal to adopt, maintain, or improve a personal health practice.
<b>4</b>	<b>6.8.3</b>	Apply strategies and skills needed to attain a personal health goal.

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<b>4, 5</b>	<b>6.8.4</b>	Describe how personal health goals can vary with changing abilities, priorities, and responsibilities.
<b>4</b>	<b>7.8.1</b>	Explain the importance of assuming responsibility for personal health behaviors.
<b>4</b>	<b>7.8.2</b>	Demonstrate healthy practices and behaviors that will maintain or improve the health of self and others.
<b>4, 5</b>	<b>7.8.3</b>	Demonstrate behaviors to avoid or reduce health risks to self and others.
<b>3, 4, 5</b>	<b>8.8.1</b>	State a health enhancing position on a topic and support it with accurate information.
<b>4, 5</b>	<b>8.8.2</b>	Demonstrate how to influence and support others to make positive health choices.
<b>2, 4, 5</b>	<b>8.8.4</b>	Identify ways that health messages and communication techniques can be altered for different audiences.